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## Reflexology and cancer

by Nicola Ramirez, MFHT, MIGHT, MPACT

*Nicola Ramirez investigates the potential benefits of reflexology for cancer patients, drawing upon information from published research papers to supplement her own preliminary study.*

### Abstract

The objective of this study is to investigate the ways in which reflexology may benefit cancer patients. I will identify any factors during a reflexology session that may be involved in providing possible benefits to patients and explore the reasons for their efficacy. Reflexology treatments will be given to six patients, with cancer of various types and degrees of severity, over a six-week period. I will track the progress of each patient over the six weeks, assessing whether there have been any noted benefits through a combination of information gained from conversations with patients and the use of thematic analysis. If the results are not conclusive, it is nevertheless possible to appreciate that this study has contributed to an area of research that is currently under-represented. 'The urgent need for more research into complementary and alternative medicine has been highlighted by the House of Lords' Select Committee on Science and Technology. There are thought to be up to 50,000 complementary practitioners in the UK, yet this is not reflected in the number of researchers, research projects undertaken or published reports' (The Prince of Wales 2002). If the outcome of this study is positive, it has the potential of increasing awareness of the usefulness of reflexology in palliative care, contributing to its increased availability within NHS hospices, and ultimately ensuring that patients are given the option of utilising its benefits or not.

### Introduction

The idea for this dissertation developed from my time working as a reflexologist at an NHS hospice, where I was treating patients suffering from cancer. The feedback that I received from those patients was highly positive, with most cases reporting deep relaxation experienced during and after treatment and an overall reduction in feelings of stress. In some cases, the easing of depression,

improved sleeping patterns, and increased energy levels were also reported. Despite my own observations, I occasionally encountered a seemingly dismissive attitude from some of the doctors towards reflexology's strength as a valid therapy, labelling it 'just a foot massage'. Even if reflexology is nothing more than a foot massage, based on my experience there is enough anecdotal evidence to warrant further investigation into reflexology's potential to benefit cancer patients.

A range of theories exist that attempt to explain how reflexology works, although none of them, as yet, have enough scientific evidence to support their claims. What we can say however is that reflexology is the application of pressure onto specific points of the feet, which are thought to correspond to organs and systems of the body. It is also said to be 'a powerful system of healthcare, useful for achieving and maintaining health and enhancing well-being, and for relieving symptoms or causes of illness and disease. It is expounded as a means of maintaining homeostasis, aiding relaxation and triggering the body's own innate self-healing capacity' (Lett 2000).

The nerve impulse theory (Bliss & Bliss 2000) states that by applying pressure to the foot, an impulse is triggered through the afferent neurons, which reaches the brain via the ganglia and spinal cord. Impulses are then returned to the muscle groups via the motor neurons, ganglia and spinal cord. Reflexology is seen as working indirectly on the muscles through massage of the feet, assisting the targeted muscle groups in an anti-spasmodic manner, subsequently helping the individual towards a state of relaxation.

The meridian theory is based on the ancient Chinese system of subtle energy flow, which states that energy runs through the body in channels (meridians) from head to toes. In a balanced, healthy state, this energy flows unimpeded through the meridians, but illness, stress, or imbalance can cause the energy flow to become blocked, sluggish or excessive. It is believed that reflexology can help restore equilibrium by stimulating or reducing the energy, and unblocking any stagnating energy (Crane 1997).

Other theories include the gate control theory, which is a means of explaining pain control such as transcutaneous electrical nerve stimulation (TENS). 'Reflexology may work similarly to a TENS machine, relieving or suppressing pain impulses. This may be similar to the impact of any touch therapy, for it is known that touch impulses reach the brain before pain impulses, thereby effectively 'shutting the gate' to the perception of pain' (Mackereth & Tiran 2002).

As a qualified reflexologist, with training in anatomy and physiology, I work according to the understanding that the systems and organs of the body are represented in miniature on the feet. By applying pressure to certain parts of the feet called reflexes, I am aware of the corresponding body part I am potentially accessing, and adapt my treatments according to individual needs. For example, if I am treating a client with polycystic ovaries, I would concentrate on the

reproductive system reflexes in an attempt to regulate hormone production, but conversely if I were treating a client who is less than three months pregnant, I would avoid the reproductive reflexes for fear of over-stimulation, potentially resulting in a miscarriage.

Due to professional ethics, I would never claim to be able to cure any condition, and while I inform patients of the existing theories of reflexology, I also state that there is no definitive explanation as yet. But based on the anecdotal evidence I have encountered, I propose that reflexology may benefit cancer patients by providing the time and space in which they can relax, and are able to discuss their fears and concerns, all of which can help to reduce stress and enable a greater degree of optimism.

## **Literature review**

In this section, I am going to examine studies that are relevant to the above proposition that reflexology may be beneficial to cancer patients through its ability to induce relaxation and create a non-confrontational space in which they can discuss any problems, which may help to ease stress and increase positivity.

A study conducted by Hodgson (2000) examined whether reflexology had an impact on cancer patients' quality of life by using randomised control trial (RCT) methodology, which 'involves the random allocation of different interventions (or treatments) to subjects' (*Wikipedia 2008*). Twelve cancer patients in the palliative care stage of their disease were randomly divided into two groups: the experimental group receiving reflexology treatment, and the control group receiving foot massage, which did not involve the stimulation of foot reflex points. Results were collected by the use of a visual analogue scale (VAS), which was used prior to, and following treatment, but it is not specified in the study which questions were asked or how the scale was graded.

It is just stated that the VAS was used to help gain the information necessary to answer the question: 'do patients report any impact on their quality of life after receiving reflexology?' (*Hodgson 2000*). By omitting this information, an insight into the method Hodgson used to derive results was not as clear as was possible. Although lacking in this area, Hodgson does present the study's results in a concise manner: 100 per cent of the reflexology group reported an improvement in quality of life (QOL); 33 per cent of the control group reported an increase in QOL; and 100 per cent of all participants found the intervention to be relaxing.

Below is a copy of the results table from Hodgson's study. I have highlighted in bold the QOL components that were improved by the control group's foot massage:

	PLACEBO (n=6)		REFLEX (n=6)	
CHANGE	FREQUENCY	PER CENT	FREQUENCY	PER CENT
Appearance	0	0	5	83
<b>Appetite</b>	1	17	3	50
<b>Breathing</b>	1	17	5	83
<b>Concentration</b>	2	33	4	67
<b>Constipation</b>	1	17	4	67
<b>Diarrhoea</b>	1	17	3	50
<b>Fear of Future</b>	2	33	4	67
Isolation	0	0	2	33
<b>Mobility</b>	1	17	2	33
<b>Mood</b>	2	33	2	33
Nausea	0	0	1	17
<b>Pain</b>	1	17	4	67
<b>Sleep</b>	3	50	4	67
<b>Tiredness</b>	1	17	4	67

Looking at this table, we can see that 11 out of 14 QOL components improved in the placebo group. This suggests that there may be some factors other than reflexology contributing to the amelioration of the patients' QOL.

Thirty-three per cent of the control group reporting increased QOL is a significant number, and certainly worthy of further investigation. By examining how reflexology could benefit cancer patients, I may be able to potentially highlight the other factors that have contributed to the improvement of QOL in the control group.

Another interesting and relevant study, Use of Reflexology Foot Massage to reduce Anxiety in Hospitalised Cancer Patients in Chemotherapy Treatment (*Quattrin et al 2006*) used reflexology as a relaxation intervention to investigate its usefulness in controlling side-effects of chemotherapy, such as nausea/vomiting and anxiety. A sample of 30 patients was used, and similarly to Hodgson's study, half were randomly assigned to a control group and half to the experimental group. Patient anxiety levels were measured using a Spielberger State-Trait Anxiety Inventory (STAI), which consists of the following levels: not at all, somewhat, moderately so, and very much so. This was completed before and after the treatment, and worked on the basis that a higher score indicates a higher level of anxiety.

Before treatment, anxiety scores for the experimental and control group were 55.7 and 57.1 respectively, and after treatment they were 47.7 and 56.3, so we can see there was a decrease in anxiety post intervention in both groups. 'This result was consistent with the findings of other previous studies that verified the efficacy of relaxation measures to reduce anxiety levels related to chemotherapy. Relaxation techniques are thought to reduce people's anxiety... and enhance a patient's sense of well-being' (*Quattrin et al 2006*). These positive results suggested that reflexology is useful in aiding relaxation, which in turn helps to reduce anxiety. Although this is a useful study, it is limited because Quattrin et al have not detailed what kind of intervention the control group received, but have merely stated that 'the experimental subjects received therapeutic massage whereas the control patients did not' (*Quattrin et al 2006*). From the lack of specification, one can only assume that the control group did not receive an intervention of any kind, so although there was improvement in this group's anxiety levels, we are unable to attribute it to anything. The fact that this study has referred to reflexology as 'reflexology foot massage' indicates their awareness of reflexology's usefulness also as a massage.

According to *Stress & Cancer (2008)*, 'regular massage is an effective way of lowering cortisol levels and has countless benefits, including an improved state of mind and an overall sense of well-being. During a massage, the mind sends signals to the nervous system to completely relax the entire body at a very deep level. This results in a significant lowering of stress hormone cortisol levels.' Cortisol is a stress hormone, which has been linked to suppression of the immune system, and the development of cancer (*Stress & Cancer 2008*), therefore reducing levels of cortisol in the bodies of cancer patients can be seen as an important factor. 'The practice of massage to lower stress hormone cortisol levels and restore adrenaline levels was further validated when it became the cornerstone of a new program at Memorial Sloan-Kettering Cancer Center, generally considered to be one of the world's top-ranked cancer hospitals. It is critical for the cancer patient to lower stress hormone cortisol levels within their body in order for their immune system to recover and to restore adrenaline levels to normal to prevent new cancer cell mutations' (*Cancer & Stress 2008*).

In the study, *Optimistic Personality and Psychosocial Well-being During Treatment Predict Psychosocial Well-Being Among Long-Term Survivors of Breast Cancer*, Carver et al attempted to show a possible link between cancer survivors disposition and the level of their well-being. They said 'it seems very likely that psychosocial variables play a major role in predicting long-term well-being, just as they do in short-term well-being. Identifying such variables would seem to be an important priority' (*Carver et al 2005*).

This research examined optimistic versus pessimistic personality traits to determine how they may influence well-being in cancer patients. It was a longitudinal study that provided a follow-up on three similar studies that had been carried out on survivors of breast cancer. The study re-recruited 20, 22 and 20

women respectively from the original 70, 68 and 64 women. Outcome was measured using a QOL questionnaire, and a three-point scale questionnaire based around the question: 'to what extent do you believe that you will remain free of cancer in the future?' This was answered with: *absolutely sure I won't get cancer again*; *I don't know*; and *not at all confident—I expect to get cancer again*. The results showed that pessimism in the first year post-surgery predicted pessimism and lower QOL at follow-up, and conversely optimism post-surgery predicted optimism and higher levels of QOL at follow up. 'The importance of this trait has been shown in several health-related contexts. As a broad sense of confidence, optimism keeps people engaged in efforts toward desired goals, resulting in better behavioral outcomes and more adaptive coping. Optimism has also predicted lower distress in many populations, including breast cancer patients studied during the time surrounding diagnosis and through the next year. We predicted that optimism would similarly predict better well-being in the long term' (Carver *et al* 2005).

From the above study, it appears that having an optimistic outlook can improve QOL, and subsequently to could be considered useful to utilise an intervention for cancer patients that could help promote a sense of optimism. I will investigate if, as per my proposition, reflexology could be such an intervention.

Being diagnosed with cancer can be a huge shock to an individual and can signal the beginning of dramatic life changes, both physically and mentally/emotionally. The individual has to cope with either a rapid physical decline, resulting in death, or the gruelling process of treatment for cancer (radiotherapy, chemotherapy or medication), which frequently causes negative physical reactions such as loss of hair and/or sickness. 'The diagnosis of cancer itself produces physiological and psychological pain, it produces pain and shock, sometimes experienced simultaneously' (Goldie 2005).

We must also consider the possible lifestyle changes, such as having to give up work, and giving up/limiting interests and activities. Relationships may cease or the dynamics of them may change. All of these factors are likely to cause a change in identity, and/or a fragmented sense of self. 'Loss of identity is thought to be central to the experience of enduring illness. Identity loss derives from both internal recognition (subjective or experienced) and external reaction, when, for example family carers change their attitudes and behaviours towards the affected individuals' (Gillies & Johnson 2004).

Identity loss may be a major problem for those with cancer, as suggested by Gillies & Johnson's study, *Identity Loss and Maintenance: Commonality of Experience in Cancer and Dementia*. This study attempted to show a link between identity loss and long-term illness, using cancer and dementia as examples. For the purposes of this literature review, I will be focusing on what the results demonstrated for those suffering with cancer.

Semi-structured interviews were carried out with 16 participants; all with advanced cancer. The interviews were audio-taped, transcribed and analysed using the Grounded Theory approach. The results showed that the sufferer may experience a sense of 'role erosion' as their previously-held roles, such as breadwinner, mother or father, are abandoned due to their illness. Their role within the family became less central as they became more dependent; 'a patient with cancer described the changing role she experienced in her family from being the matriarch around whom things revolved, to being someone who now needed to be watched and looked after' (Gillies & Johnson 2004). They saw themselves as burdens, who had no more social value, yet it seems they employed methods to retain a link with their identity. 'Both cancer and dementia respondents appeared to reclaim their identity through references to an earlier life where pride in one's achievements provided a contrast to their current, increasingly frequent reminders of decline' (Gillies & Johnson 2004).

A misconception of cancer is that it is incurable, so we must consider that for many receiving such a diagnosis, they are absorbing the shock of what they perceive to be a 'death sentence'. Whatever the individual circumstances, there is undoubtedly going to be some stress experienced by the person trying to cope with having cancer. It could be suggested that discussing worries and fears may help to reduce the individual's stress. A study by Boudioni et al (2000) aimed to investigate the effectiveness of The Cancer Bacup London Counselling Service, which is a local counselling service for those with cancer. If the results showed that the clients were gaining benefit from the service, they were considering extending it from a local service to a national one. They sent 309 clients an evaluation form and 142 responded. The form contained fixed choice questions whereby client's views were to be given on a four-point scale, and open-ended questions asking clients to express if they felt the service had helped them, and if there was anything they would change. The forms were then analysed using qualitative analysis, with the results showing that 'the great majority of clients who returned forms felt that they had benefited'. They also revealed that 90 per cent of the clients indicated that their emotional health had improved and 84 per cent stated that the reason they had gone to counselling in the first place had been dealt with. Overall, this study elicited positive results, and suggested that counselling is useful for those with cancer. I have included a study on cancer and counselling in this literature review because I propose that a reflexology session creates a relaxed environment that may encourage the patient to discuss any problems or worries.

From the first two studies in the literature review, it seems that there may be something other than reflexology itself that is benefiting cancer patients. From anecdotal evidence obtained from cancer patients I have previously given reflexology treatments to, I suspect that these benefits may be associated with the environment created during a reflexology session that is conducive to relaxation. This allows the patient to talk about any worries they have, which may subsequently aid stress relief and improve mental disposition. There appears to

be a lack of studies on reflexology promoting optimism, and reflexology as a talking therapy, hence my inclusion of studies on cancer and optimism, and cancer and counselling, for they have provided a point of discussion that I may not have been able to include in my study otherwise.

After conducting an extensive search through various medical journals and complementary therapy journals for studies on reflexology and cancer, it is apparent that they tend to predominantly use randomised controlled trials (RCTs). The use of this type of methodology appears to be prevalent because these studies are specifically trying to prove the usefulness of reflexology as a therapeutic intervention. According to Lewith et al, this methodology is the appropriate choice when aiming for such an outcome, because 'an RCT answers one particular question and this question is always related to the specific efficacy of a particular intervention on a particular outcome, over and above the contextual effects of the treatment in general or in comparison to another treatment' (LeWITH et al 2002). My study appears to be unique in that it is of a more investigative nature. I will be looking at the beneficial factors surrounding reflexology, and therefore this methodology would not elicit the type of results I am aiming for. Having identified this distinct difference between my study and the ones that I have encountered, I will devise my methodology accordingly.

## **Methodology**

As cancer patients are considered 'sensitive subjects', I was concerned about the possibility of having my proposal turned down by both the hospice and the university ethics committee. A discussion with the relevant person at the hospice resulted in an agreement that if my research did not cause me to depart from the usual procedure of a reflexology session, then approval could be given. On seeking ethical approval from the university, my proposal was initially refused due to the 'sensitive subject' issue. However, I then received agreement when I clarified that there would not be any changes in the delivery of care in order to conform to an experimental design. I discarded my initial plan to use interviewing techniques, and conversational analysis, having decided that I could gain sufficient data from naturally occurring conversations between the patients and I, coupled with information from the patients files. Working within such a limited framework, I concluded that thematic analysis would enable me to get the best out of my data. 'Through its theoretical freedom, thematic analysis provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data' (Braun & Clarke 2006).

## **Methods**

Participant requirement included a diagnosis of cancer, for which the individual was either attending the hospice as a daycare patient, or was on one of the wards as an inpatient. I wanted to use both outpatients and inpatients for my study, as I wanted to investigate whether reflexology could help participants with

cancers of varying severities. This supposition was based on my initial misunderstanding of the conditions under which a patient is admitted onto the wards. I thought it was only for terminal care, which would provide participants with severe symptoms, but terminal care is only one of four criteria for admission as an inpatient. The other criteria include symptom control, respite, and rehabilitation. Regardless, it was possible to use any patient, at any stage of their illness to determine if reflexology provides benefits. To be eligible for participation, outpatients were not to be receiving any other form of complementary therapy, which could potentially interfere with the results, whereas it was felt that because inpatients can be very unwell, it would be unfair to deny them any other available treatments so they may also have been receiving massage and/or healing.

I had hoped to enrol four outpatients and two inpatients to participate in my study, as six is the maximum number of reflexology sessions I could feasibly give in one day. The procedure for obtaining participants was different for outpatients, and inpatients. A member of the day therapy unit (DTU) informed outpatients that they could sign up to a reflexology course of one treatment a week for six weeks if they so wished. If a patient chose to sign up for a course they in return contacted the DTU and booked in their first session. Inpatients were informed by the nurses on the wards that reflexology was available to them, and those interested had their name added to a board in the office. This system worked well because I could turn up on the ward, check the board and immediately treat the patients listed without having to confer with anyone, which helped to save time.

At the initial point of contact, patients were not informed of my research to prevent any discouragement from signing up for treatment, and as the primary concern lies with the patients' well-being, we did not want them to miss out on the opportunity for treatments. It was agreed that I would ask patients if they would take part in my study once they were in the treatment room, enabling an explanation of the study face-to-face. If the patient agreed, I asked them to sign a consent form, which had been modified from its original format to include a brief summary of the intention of the study.

Prior to seeing a patient for the first time, I made sure I was quite informed regarding their illness, and their psychosocial situation by reading relevant sections of their medical file, and speaking to either the DTU manager or one of the ward nurses. Subsequently, I was aware of the patient's diagnosis; any treatment they were receiving; how their illness was responding to treatment; any symptoms (tiredness, pain, sickness, etc) they were experiencing due to the cancer or treatment; their psychosocial situation, for example, depression or anxiety; or any relationship problems, i.e. between the client and their family. During the initial meeting with a patient, similarly to a usual reflexology session, I introduced myself, talked about reflexology, and asked the patient how they were feeling and if there was anything they wanted me to know. Having these conversations prior to treatment helped the patient to feel comfortable, as well as

potentially providing further background information. I kept the consultation as similar to the usual reflexology treatment procedure, and avoided interviewing patients or asking any intrusive questions. Instead, I took notes on the naturally occurring conversations that took place between the patients and I.

During each treatment, the patient lay down on the treatment couch as I worked on their feet. I began with a foot massage, before proceeding to work through all the reflex points, concentrating on any areas that felt cold or congested. Every patient is different: some liked to talk throughout the session, whether that be regarding their illness, how they felt, or completely unrelated chit-chat; others preferred to enjoy the treatment by relaxing in silence. For outpatients, the session usually lasted 45 minutes, and for inpatients, I usually worked on them for 15 minutes due to their more fragile state of health. After the session, I asked the patients how they felt, which provided a good opportunity for me to gain information about any responses to the treatment. I added notes to the patient's medical file, as well as to my own comprehensive client records; the latter providing the information that formed the data for my analysis.

## Findings

Unfortunately, my results were incomplete, as three patients did not attend the full six-week course. Patient A forgot about sessions three and four, and was suffering from severe oral pain during sessions five and six and did not feel like attending. Chemotherapy can cause the teeth to rot, and as she was in her third cycle of chemo, it seems likely she may have been experiencing these symptoms as a side effect.

Patient E had bowel cancer, which was causing abdomen pain that could not be managed at home. The pain subsided to a manageable degree after two weeks and she was able to return home.

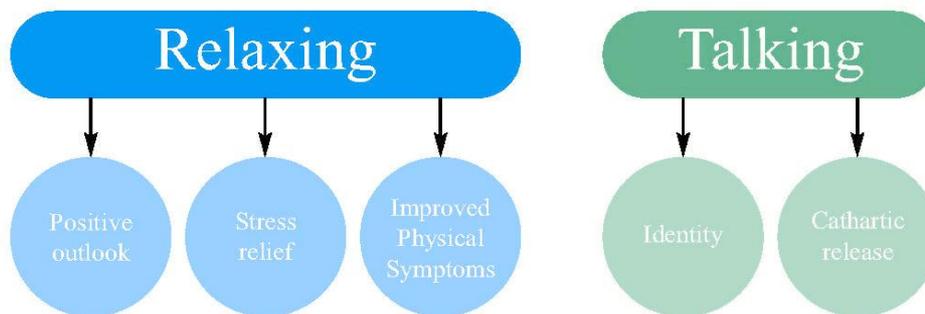
Patient F had been admitted as an inpatient to get some respite from her stressful home situation for two weeks; her eight-year-old daughter was not coping with her mother's illness very well, and was displaying rebellious tendencies that were hard to manage.

Regardless, from the data gathered and through the use of inductive thematic analysis, 'which reports experiences, meanings and the reality of participants' (*Braun & Clarke 2006*), I have still been able to achieve the aim of my research: an investigation into reflexology's potential benefit to cancer patients. My results suggest that reflexology did seem to bring benefit to the six study participants, even if that was just through the relaxation they experienced for the duration of the session.

In light of my limited data, thematic analysis as a 'method for identifying, analysing and reporting patterns (themes) within data' has proven a highly useful

tool. The process of organising my data based on the principles of thematic analysis involved searching my data for information relating to my research question, such as comments made by the participants about the reflexology treatment, comments on how they felt, or any complaints they may have had. This selected information formed the 'data set', from which I searched for prevalent, relevant pieces of data or 'themes'. 'A theme captures something important about the data in relation to the research question, and represents some patterned response or meaning within the data set' (Braun & Clarke 2006). I initially identified six key themes: cancer; reflexology; medication; relaxation; talking; and positivity, and multiple sub-themes. I narrowed these down to the two key themes of relaxing and talking, and the five sub-themes: positive outlook; improvement in physical symptoms; stress relief; cathartic release; and identity.

These are evident in the thematic map below:



As can be seen from the thematic map, relaxation is one of the main themes. All six patients reported that they felt relaxed after their reflexology treatments, which seemed to help them on other levels. Patient A commented that he believed the relaxation was helping to counteract his stress levels (sub-theme). He was going through a particularly stressful time, as a second tumour had just been found, indicating his current medication was not working and that doctors would have to try him on something different. Despite this, he said that he did not feel too stressed or worried, and in fact was feeling very positive (sub-theme): 'I've been feeling really chilled considering. I feel so relaxed after I see you, and it kinda seems to stay with me for a few days. It [reflexology] has definitely helped my stress levels, and I would say I feel more positive as well'. Patient A also reported an improvement in sleeping patterns: 'I usually take a sleeping pill about four nights a week, but now you mention it, I haven't been taking that many since

the reflexology, and I'm sleeping well'. It appeared evident from Patient A's comments that there has also been an improvement in one aspect of this patient's physical symptoms (sub-theme).

Patient D also experienced an improvement in physical symptoms. Due to his medication, his food was not digested properly, which caused constipation. However, after reflexology, he found the constipation had eased: 'it must have been the reflexology, because not long after, I went to the toilet and it was fine'.

Patient C is an inpatient with breast cancer that had spread to her brain. The secondary tumour was causing problems with her memory, which subsequently made conversations difficult as she had difficulty recalling words. It was a frustrating experience for her, as she struggled to remember the words she wanted to use. She could become quite uptight and tense in the process, but found that reflexology helped: 'I feel myself more relaxed and it's a little easier for me to get the word'.

Patient C also mentioned feeling more positive after reflexology: 'feeling nice helps me feel positive'. She believed being positive was a very important state of being, which I will discuss in greater depth in the 'Discussion' section.

I also discovered that a lot of the participants found talking to be a great help to them, so I felt it was relevant to categorise talking as a key theme. Patient B talked excessively throughout the sessions, and had a tendency to repeat herself a lot. The content of the dialogue was regarding her dissatisfaction with the medical consultants, as she felt they did not give her the time to listen to what she had to say. She repeatedly told me in her first two sessions that she was displeased with their decision not to operate on her tumour, and wanted to get a second opinion. She commented: 'I feel so much better; it is like I've just been to counselling'. Her reflexology sessions provided her with a time to talk about her worries, providing a cathartic release (sub-theme).

As previously mentioned, Patient C was for the most part bed-bound and towards the end of the six weeks she was completely blind, so she found the opportunity to talk hugely beneficial. During our sessions, she liked to reminisce and talk about the life she used to lead: her job; the travelling she did; and all about the places she visited. Through talking, she was able to remember times when she was happy and had led a full life; and provided her with the chance to remember her identity (sub-theme) before she was sick.

We can also see this at play with Patient D, who also used the time during our session to talk. He had approximately two months to live due to his aggressive pancreatic cancer, and his left foot had been amputated due to gangrene. He was physically reliant on other people, but before he became ill he was very successful, working in a senior position for a well-known software company. His identity had taken a dramatic new form, and being able to talk about his other

'self' seemed to serve the important function of enabling the merging of his old and new identity.

As a final note, I would like to add that all participants reported that they felt relaxed either during or after (or both) their session; five participants felt that the session improved their mood; and four participants felt that their stress levels were reduced.

## **Discussion**

Stress can be a major problem affecting those with cancer, whereby 'the diagnosis, treatment and course of cancer are almost universally viewed as extremely stressful' (*Cooper 1991*). Stress can have a detrimental effect on an already compromised immune system (*Stress & Cancer 2008*), thus it is certainly an unwanted element in the experience of cancer. As stress can originate from a wide range of factors associated with cancer, a multi-disciplinary approach may be considered the most useful in attempting to eradicate a cancer patient's stress. The medical field is undoubtedly necessary from the point of diagnosis, through to recovery, or death, providing patients with support, advice and important interventions, such as chemotherapy and surgery, in the fight against cancer.

However, it may also be important to consider that 'the medical doctor examines the body and, from the combination of symptoms and signs, diagnoses the condition and its relationship to symptoms of other known diseases. In this process of medical diagnosis, the doctor moves away from consideration of the particular individual to the general process of disease. In short, the doctor is not concerned with how the individual feels or thinks but how the disease performs. With cancer patients, on whom the disease makes a devastating psychological impression, physical treatment and palliation can only do so much' (*Goldie 2005*). There seems to be a need for the inclusion of some form of non-medical interventions, so it is my aim in this section to discuss reflexology as a non-medical intervention, and detail how it could provide benefits to cancer patients that may be lacking from the medical arena.

Conversations with the participants of my study suggest that the main stressors are related to their treatment and medication, as seen with patient A. She was on her third cycle of chemotherapy, and after each dose she was put on steroids for the following three days. She was experiencing not only the physical illness caused by chemo, but was also suffering from mood swings, irritability, depression, difficulty sleeping, tiredness, and flu-like symptoms. She was also going through the actual process of receiving treatment, such as chemotherapy, which was intrusive and unpleasant. In the case of Patient B, the discovery of a secondary tumour made it clear that his current cancer medication was not working, and it was decided he would have to try other medication in the hope of finding something that works. Patient B's response to this was: 'well, that last

medication gave me another two years so I hope the next one works otherwise there's nothing else'. He is living with the knowledge that this new medication determines whether he does continue to live or not. Stress from family relationships was also prevalent: Patient A and Patient F were concerned about being reliant on their daughter and partner respectively, while Patient F was also stressed about her young daughter not coping very well with her mother's illness.

Looking at these stressors, we can observe that they are things that the individual has no control over. It seems control, or lack of, is the main factor that makes stress harmful, for 'our sense of control over what is happening to us is critical. When we feel in control, stress becomes the spice of life, a challenge instead of a threat. When we lack this crucial sense of control, stress can spell crisis – bad news for us, and our health' (*Cooper 1996*).

Studies have shown that stress can inhibit immune system function, and 'the longer the stress, the more the immune system shifted from the adaptive changes seen in the fight or flight response to more negative changes, first at the cellular level and later in broader immune function. The most chronic stressors – those that seem beyond a person's control or appears endless – resulted in the most global suppression of immunity. Almost all measures of immune system function dropped across the board' (*Mental Health 2008*).

Considering the already compromised immune system of the cancer patient - due to the cancer itself, and/or any treatment they might be receiving – we can acknowledge their need to boost immune function. I have suggested throughout this study that reflexology may be a useful intervention for cancer patients on several levels; one of which being its capacity to possibly reduce stress through inducing relaxation. As all participants in Hodgson's study found reflexology to be relaxing, I expected the same response from the participants in my study, as was the case (see the 'findings' section), but through which means did reflexology create these feelings of relaxation? I propose that it was through the application of massage techniques on the feet. Massage is seen as a useful relaxation aid, as 'during a massage, the mind sends signals to the nervous system to completely relax the entire body at a very deep level. This results in a significant lowering of stress hormone cortisol levels' (*Stress & Cancer 2008*).

A study conducted by Gruber et al (*1988*) examined patients who were involved in relaxation interventions, such as guided relaxation and imagery exercises over the period of a year. The research revealed 'several changes in measures of immune system function drawn from blood samples, and psychological measures from the MMPI (Minnesota Multiphasic Personality Inventory) and Rotter's Test for locus of control, were found to parallel the use of relaxation and imagery. The researchers concluded that relaxation and imagery can influence immune responsiveness (*Cooper 1991*). The 'lowered immune defenses clearly predispose to the development of malignancy, and conversely, heightened immune resistance is presumed to provide protection' (*Cooper 1996*). The study

by Gruber et al suggests that relaxation can improve immune system function, and by acknowledging this study's participants' claims that reflexology made them feel relaxed, it seems the therapy could be utilised to help cancer patients' immune function via its ability to induce relaxation.

Another area in which reflexology could be a useful intervention for cancer patients is its ability to seemingly improve mood. Five out of the six participants in this study reported that their mood had improved; they felt 'uplifted' and 'more positive', which lasted beyond just the duration of the session. The fore-mentioned study by Carver et al reinforces this, revealing an optimistic attitude seemed to help improve the participants' quality of life. There are also studies that suggest optimism can actually prolong the cancer patient's life, as 'once cancer has been diagnosed, exceptional survival rates have been associated with highly optimistic and positive psychological states. In addition, it appears that emotional reactions and adjustment to diagnosis can affect progression' (Evans 2000). Evans also states that 'psychosocial treatments have been shown to be helpful in improving mood in cancer patients and have also been reported to improve survival' (Evans 2000).

Patient E was 68-years-old and had been diagnosed with bowel cancer eight years ago. She was admitted to the hospice as an inpatient for help with symptom control. When I visited her, she immediately told me that she was supposed to be going on a Caribbean cruise, but because of the unmanageable pain she was experiencing she could not make it. I commented on her relatively good mood, to which she replied: 'och well, there's no point feeling sorry for myself, I'll just go next year'. She also told me that she has had it [cancer] for so long, and she is not going to let it stop her living her life, and doing what she wants to do. Could we consider that her 'fighting spirit' and positive attitude may have helped to prolong her life? Some studies seem to think this is possible: 'several studies have examined the possible influence of psychosocial factors on cancer relapse or survival. Fighting spirit and optimism after surgery for breast cancer were related to recurrence-free survival' (Greer et al 1979).

Conversely, Carver et al's study into optimism versus pessimism, and quality of life, suggests that a more negative outlook may have a damaging effect. There has been the identification of a 'cancer-prone personality', which is characterised by 'suppression of emotional reactions, especially anger, and by conformity/compliance' (Cooper 1991). A study conducted by Schmale and Iker (1966) reviewed questionnaires completed by women with suspicious pap smears to examine whether there is a link between personality, antecedent stress, and cancer of the cervix. The researchers expected to see a link, and predicted 'with almost 75 per cent accuracy, those who would subsequently develop cancer' (Cooper 1991). The women most likely to get cancer had a 'helplessness-prone personality' (Cooper 1991). This study suggested there may be another group of women who may have a tendency to get cancer; those who had 'an overwhelming sense of frustration due to some emotional loss or conflict

during the preceding six months, and this has recently been confirmed' (Cooper 1996). This 'emotional loss' is particularly evident in the death of a loved one.

Patient C, who was suffering from breast cancer that had spread to her brain, was very open and told me that she was certain that she became ill because she had never got over her father's death. She told me that 'his death was such a shock that I never emotionally recovered, and because of this I absolutely believe I made myself ill'. Some studies suggest that 'bereavement has been associated with increased morbidity and mortality' (Cooper 1991). In addition, a study conducted by Ramirez et al (1989) showed that 'severe life events and difficulties during the post-operative disease-free interval' indicated a higher risk of breast cancer recurrence. This may suggest a link between mental disposition and the condition of our body. Patient C's belief that her negative emotional/mental state was the cause of her illness has caused her to try and stay as positive as she can in an attempt to prolong her life. Reflexology makes her feel 'uplifted', therefore it could be said that reflexology proved to be a beneficial intervention for her.

Although it may seem that remaining optimistic can help the cancer patient in their fight against cancer, I did observe that cancer patients can potentially feel pressurised to remain positive. Patient A was living with and being looked after by her daughter who was very interested in alternative remedies. During our weekly sessions, Patient A would inform me of the new remedy her daughter was giving her, which ranged from a specific amount of black tea in the morning for one week, to an apple cider vinegar concoction again for the duration of a week. It seems that her daughter was enthusiastically researching alternative cancer cures, and Patient A felt she had to embrace them with the same energy. However, in our sessions she expressed her true feelings towards these remedies through body language, such as rolling her eyes when talking about them. She also told me that she did not understand nor ask what the remedies were supposed to do, but instead just took them because her daughter wanted her to. Patient A wanted to appear positive for the sake of her daughter, but there is the suggestion that the pressure to be positive also comes from sources outside the family. In *Positive Thinking: An Unfair Burden to Cancer Patients*, Rittenberg said that 'in no way should psychological support add an extra burden to an already devastated patient. By forcing positive mental attitude, health-care professionals are not allowing patients to face reality. It is felt that positive thinking may be appropriate as one of many successful coping strategies. To attribute more to it or, worse, to insist that patients believe in its power to cure may be courting emotional disaster' (1994).

Trying to push positivity onto cancer patients may negate the point of positive thinking, yet the responses from my participants seemed to suggest that reflexology sessions provided a non-pressured time and space in which feelings of positivity may naturally occur. My experience with Patient A seemed to suggest that a reflexology session also created an environment that could allow

the patient to express their true feelings. Patient A having felt obliged to engage with her daughter's alternative remedies despite feeling they were pointless, commented upon the ability to express this during our session: 'I feel so much better, its like I've just been to counselling'. This reinforced Boudioni's study, which suggested counselling appeared to be helpful for those with cancer. Some studies suggest that through interventions such as counselling and psychotherapy, the cancer patient's life can be prolonged. Spiegel et al (1989) found that patients with metastatic breast cancer who were randomly assigned to weekly sessions of group therapy that was designed to 'reduce distress through therapeutic social support and improvement of coping' (Spiegel et al 1989) had higher survival rates than those who had been assigned to a control group.

Another study by Grossarth-Maticek and Eysenck (1989) randomly assigned 50 patients with breast cancer who were receiving chemotherapy, and 50 patients refusing chemotherapy to either psychotherapy group or the non-psychotherapy control group. The results showed that 'survival time was significantly longer in patients receiving chemotherapy; psychotherapy alone also had a positive effect on survival. Patients receiving both chemotherapy and psychotherapy had longer survival times and higher percentages of lymphocytes before the beginning of the next chemotherapy treatment than did patients receiving chemotherapy alone'. These results seemed to suggest that the use of a talking therapy as an intervention actually had an influence over the physical body as lymphocyte production was increased. This interestingly highlighted the possible connection between mind and body, in that being in a relatively good place psychologically, may also improve the body's functioning.

From the above, we have established that psychotherapy can help to enable the patient to talk about their situation or whatever else they wish to discuss, which may be beneficial. It is also beneficial with regards to the patient's fragmentation of their identity, for 'when an individual is diagnosed with cancer, he or she tends to lose their established sense of self in the community and in the hospital world becomes a cipher. This kind of marginalisation makes patients extremely vulnerable to despair and their relationships both internal and external to the hospital environment can be seriously undermined as a consequence' (Goldie 2005). This may then cause 'the patient [to be] confronted with the prospects of helplessness, physical deterioration, and associated feelings of blemishment, loss of social identity, and loss of social utility. We must speak in terms of multiple combinations of predicaments and factors that threaten to dishevel, fragment, splinter, depress, breakdown and decimate his psychosocial identity' (Moller 1996). Gillies and Johnson's study (2004) examined methods used by patients to counteract this fragmentation of identity, which - as discussed previously - I also observed in the participants of this study. To reiterate, Patient D previously had a high-powered executive job working for a multi-national company, but was now diagnosed with pancreatic cancer and very ill. He had a couple of months to live and was reliant on those around him. Throughout our sessions, he liked to talk about his previous role and past experiences in life,

which I felt helped him to establish a connection between his past and current self. This was also evident with Patient C who was bed-bound and blind due to the spreading of breast cancer to her brain. She frequently reminisced about the travelling she had done in her life and the fun she had had, which again may have helped regain a sense of who she was and is. This process can be summed up as 'the fragility of their sense of identity is ameliorated by drawing on sources of self-esteem from the past' (Gillies & Johnson 2004).

## Limitations

One of the main limitations I encountered while conducting this study were the methodological restrictions I had to work around due to ethical considerations. If I had used interviews and questionnaires to acquire data from participants, my results may have been more conclusive in that I could have asked specific questions to elicit certain information. I would like to have used a Spielberger State-Trait Anxiety Inventory (STAI) to measure whether reflexology helped to reduce anxiety, involving participants rating levels of anxiety before and after their reflexology session by selecting one of the following: *not at all*; *somewhat*; *moderately so*; and *very much so*. I would also have liked to have determined whether a course of reflexology had improved clients' quality of life overall, by asking participants to complete a relevant questionnaire both before and at the end of their six-week course. If I had been able to use interviews and questionnaires I could have been more specific with my research question, such as, 'Does Reflexology Benefit Cancer Patients?' but by adapting to the methodology used my study became more of an investigation.

Due to the small number of study participants, my study can also be viewed as preliminary in that it provided an insight into factors that may be useful for further investigation in the future. Lewith et al suggested that 'these are smaller studies which, while not being conclusive, will nevertheless contribute to the pool of information. Such studies may also provide the groundwork for making decisions about the appropriateness of undertaking a full study (Leewith et al 2002). In my study, I have highlighted factors during a reflexology session that may, in part, be responsible for reflexology's effectiveness, which may lead to further, more conclusive studies into these factors.

For the purposes of my study, I wanted to create a relaxing, peaceful time and space in which the patient could completely relax. In the treatment room, I played relaxing music and had the lights dimmed to help create such an environment, yet these attempts may have been slightly thwarted due to the fact that there was building work being carried out at the hospice. Subsequently, on some days there was a degree of noise that could have detracted from the tranquillity of the room. Due to the building work, there was also a temporary lack of space, so I had to carry out my treatments in an office with a treatment couch put in it, yet it still contained a desk, and a computer, and had a clear impression of being an office. These factors may be considered limitations on my ability to carry out my

study, for they could have affected my attempts to provide a relaxing environment.

Another concern I had regarding the efficacy of my study was that participants might have felt obliged to respond with positive feedback. Over the period of six weeks, a rapport developed between the participants and I, and they were usually very grateful for the reflexology treatments. In light of the fact that they were aware of the objectives of my study, it was possible they may have wanted to 'help' me by being effusive with their responses. If this was the case then it could be considered a limitation to my study, as it was creating inaccurate results.

As an investigative study, a few areas of discussion have come to light. It has revealed that there appeared to be multiple factors during a reflexology session that can provide benefit, and they do so through more than just the application of specific techniques to the feet. There is the human touch, and the benefits of massage, as well as the special time between therapist and patient created in a 'safe' environment. By providing a non-clinical 'sanctuary' in the midst of a clinical setting, and by allotting a set time for the patient to have some 'time-out', the reflexology sessions helped to alleviate some stress the patient may have had. 'When the therapist says to the patient, 'we have an hour', he or she is transforming the usual hospital experience, because the unspoken message is, 'Whoever you are, howsoever we proceed, I give you this time because your life is precious' (*Goldie 2005*).

In this study, I have concentrated on showing how reflexology may benefit those with cancer, and how it may be utilised in a highly important area of work to help induce relaxation, positivity and a general sense of well-being. Reflexology also has the potential ability to help physical conditions, with the participants of this study indicating an improvement in sleeping patterns and digestion, as well as concentration, energy and stress levels. Having a pleasant intervention such as reflexology that makes cancer patients 'feel nice' and 'feel good', when they are facing a frightening illness, is very important. By helping cancer patients and empowering them in the face of their disease, by giving them the opportunity to make decisions at a time when they often feel a loss of control (as medical staff take over the management of their illness), reflexology is also crucial. Providing a range of complementary therapies available in hospices can help patients regain their sense of control by enabling them to make the decision whether to have therapies, and by choosing which ones they have. It allows a degree of autonomy in a world that they are unable to control.

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This study was completed by Nicola Ramirez, MFHT, MIGHT, MPACT as part of Psychosocial BA (Hons) at the University of East London (2008).